

ABSTRACT OF THE DISCLOSURE

A welding power supply includes an input rectifier that receives sinusoidal or alternating line voltage and provides a rectified voltage. A pre-regulator provides a dc bus and a convertor, such as a boost convertor, provides a welding output. The pre-regulator is an SVT (slow voltage transition) and an SCT (slow current transition) switched convertor. It may include a snubber circuit having a diode that is SVT switched. Also, the boost convertor may be SVT and SCT switched. The pre-regulator preferably includes a power factor correction circuit. The power source includes, in one embodiment, an inverter having a snubber circuit having a first switch in anti-parallel with a first diode, and a second switch in anti-parallel with a second diode. The first switch and first diode are connected in series with the second switch and the second diode, and the first and second switches are connected in opposing directions, to form a switched snubber.